## ABSTRACT

The present invention relates to a system and method to efficiently approximate the term  $2^X$ . The system includes an approximation apparatus to approximate  $2^X$ , wherein X is a real number. The system further includes a memory to store a computer program that utilizes the first approximation apparatus. The system also includes a central processing unit (CPU) that is cooperatively connected to the approximation apparatus and the memory, and that executes the computer program.